THE CAUSATIVE CONTINUUM*

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1. INTRODUCTION

This paper has a five-fold goal of (1) clarifying the direct/indirect distinction in causation in relation to verbal semantics, (2) demonstrating the importance of verbal semantics in causative derivation, (3) providing more compelling evidence for a continuum along both formal and semantic dimensions in causative formation, (4) arguing for the productivity parameter as a predictor of the form-function correlation, and (5) establishing the importance of an intermediate category of 'sociative causation'. The oft-invoked notions of direct and indirect causation as well as similar ones of manipulative/directive and contact/distant refer to a fundamental distinction in the cognition of causation. These terms have been rather vaguely and loosely used, however, and need to be either redefined or clarified in relation to the verbal semantics relevant to other issues in the grammar of causation. The verbal semantics of both root verbs and causative verbs interact in a way that calls for a finer-grained semantics going well beyond the traditional transitive/ intransitive distinction as well as the more recently recognized unaccusative/unergative distinction.

In a typological study it is customary to classify causative forms into (a) the lexical (synthetic), (b) the morphological, and (c) the syntactic (analytic or periphrastic) type. We find a formal typology of this kind to be limited in a number of respects. For one thing, as noted by Givón (1980) and Comrie (1981, 1985), these three types form a continuum, and each type, furthermore, consists of a continuum of its own, rendering the entire formal dimension into a single continuum. More significantly, functional-typology demands articulation of the formal and the semantic dimension of a given cognitive domain, so that the relevant form-meaning correlation is captured in a systematic manner. As it turns out,

there is a great deal of functional overlap among formally distinct types of causative, which is not predicted by a purely formal typology. We present a functional-typological analysis of causative constructions in the form of a semantic map that shows how formally distinct types of causative are distributed along the directness dimension of the causative semantics. The map also represents the pattern of grammaticalization, thereby providing a framework in which synchronic distribution and diachronic developments of various causative constructions can be directly related.

2. VERBAL SEMANTICS AND CAUSATIVIZATION

2.1. *Active and inactive intransitives and the (re-)definition of direct/indirect causation*

Recognition of two types of intransitive verb—whether they express states/processes or activities—has become customary since Perlmutter's (1978) study of impersonal passives. Perlmutter cites previous studies by Sapir (1917) and Boas and Deloria (1939) that allude to the distinction between the two types of intransitive verb. In the wider context of voice phenomena, however, perhaps one of the earliest treatises dealing with this distinction is the 1828 work *Kotoba no Kayoiji* (*A Passage to Language*) by Japanese grammarian Motoori Haruniwa (1763-1828). In this short monograph Haruniwa distinguished two types of intransitive verb, labeling them as *onozukara sikaru* ("to happen thus spontaneously") and *mizukara sikasuru* ("to do so volitionally"). The distinction roughly corresponds to Perlmutter's unaccusative/unergative contrast, but we shall opt for more semantically transparent terms and designate *onozukara sikaru*/unaccusative verbs and *mizukara sikasuru*/unergative verbs as inactive and active respectively.

Haruniwa's classification of intransitive verbs is semantically based, as the class labels suggest. Of the utmost relevance to our study, however, is his demonstration that the two classes of intransitive verbs in Japanese correlate differently with verbal derivations. Inactive verbs tend to have a corresponding transitive (lexical causative) verb but lack a true causative and passive form. Active intransitive verbs, on the other hand, have a transitive counterpart only sporadically. Like transitive verbs, they derive both causative and passive forms regularly. The situation is summarized in Table 1:

Restricting our attention to the causativization of intransitive verbs for the moment, the following illustrates the relevant pattern, where the morpheme –(sa)se in (1c) and (2c) is the Japanese productive causative suffix:

(1) a.   Kabin-ga   ware-ta. (Inactive intransitive)
          vase-NOM   break-PAST
          'The vase broke.'
     b. Taroo-ga   kabin-o   wat-ta. (Transitive)
              NOM   vase-ACC break-PAST
          'Taro broke the vase.'
     c. *Taroo-ga   kabin-o   ware-sase-ta. (Intransitive-based causative)
              NOM   vase-ACC   break-CAUS-PAST
          'Taro made the vase break.'
(2) a. Ziroo-ga   hasit-ta. (Active intransitive)
              NOM   run-PAST
          'Jiro ran.'
     b. (No corresponding transitive verb)
     c. Taroo-ga Ziroo-ni/o   hasira-se-ta. (Intransitive-based causative)
              NOM   DAT/ACC run-CAUS-PAST
          'Taro had/made Jiro run.'
(3) a. Ziroo-ga   kabin-o   wat-ta. (Transitive)
              NOM vase-ACC break-PAST
          'Jiro broke the vase.'
     b. Taroo-ga   Ziroo-ni   kabin-o   wara-se-ta. (Transitive-based causative)
              NOM   DAT   vase-ACC break-CAUS-PAST
          'Taro made Jiro break the vase.'

Many transitive verbs (e.g., English *break*, *kill*) express causative meanings in the sense that the agent's action brings about a particular process leading to a change of state in the referent of an object nominal. Traditionally such transitive verbs were not considered causatives. Causative forms (or constructions) usually meant those forms and constructions that were associated with a specific morpheme or construction type that had a certain degree of productivity. The situation was the same in Haruniwa's grammar, where transitive verbs were characterized as expressing the meaning of *mono o sikasuru* "to do so and so to a thing," and causative forms were described as *ta o sikasasuru* "to make others do so and so".

Languages that divide transitives and causative forms according to a pattern similar to Japanese are not hard to find. Svan, a Kartvelian language spoken in northwest Georgia, divides verbs into four classes: Class 1, transitives; Class 2, active intransitives; Class 3,

inactive intransitives; Class 4, a non-productive class consisting of affective verbs whose subjects occur in the dative case. Sumbatova (1993:258) makes the following observation: "The morphological causatives are productively derived from all verbs of Classes 1, 2, and 4 and are marked by a causative suffix or a combination of two causative suffixes…. As to Class 3, its members rarely have morphological causatives of this type, though many of them have transitive counterparts belonging to Class 1, cf. *idgäri* 'dies' (Class 3) – *adgäri* 'kills' (Class 1)."

Although many languages make this distinction between transitive verbs (with a causative meaning) and causative forms, a neat distinction between the two is not always maintained. In some languages the same morpheme is used in forming what corresponds to a transitive verb as well as that which corresponds to causative forms in other languages—e.g., in Quechua *wañu-ci-* 'to kill' and *apa-ci-* 'to make someone carry something'. Even in those languages that make a clear distinction between two types of causative, the productive type may be recruited to fill gaps in the lexical domain.

These possibilities notwithstanding, a large number of languages, if not all languages, do grammaticalize a meaning distinction expressed by lexical causatives and productive causative forms, which is reflected formally (unanalyzable, unitary lexical units vs. morphologically complex constructions) in keeping with the traditional distinction between transitive verbs and causatives. Perhaps the most widely recognized way of capturing the relevant meaning contrast is in terms of the distinction between 'direct' and 'indirect' causation—lexical causatives express the former, and productive causative formation is associated with the latter. Similar terms proposed include 'contact' and 'distant' causation (Nedjalkov and Sil'nickij 1969, Masica 1976, Saksena 1982). Unfortunately, these terms have been used rather loosely, sometimes without a rigorous definition and sometimes in slightly different senses depending on the authors and the context. [1] Shibatani (1973/1975) avoided them altogether and instead opted for characterizing the distinction by the prototypical causing acts involved, using the terms 'manipulative' and 'directive'. Lexical causatives express situations involving physical manipulation of an object or person (the causee) by the causer, whereas productive causatives typically involve the causer's giving an oral direction/instruction to the causee. In some languages words representing these notions are actually grammaticalized in causative constructions; e.g., direct causatives in Yimas involve prefixes *tar-/tal-*, whose etymological meaning is 'to hold,' whereas indirect causatives make use of the prefix *tmi-* 'to say', Foley 1991), but this seems to be based on prototypical instances rather than reflecting the fundamental distinction involved. Our present suggestion is to define direct and indirect causation in such a way as to derive the manipulative/directive interpretations as prototypical manifestations of the two basic causative situations that lexical and productive forms encode.

Haruniwa's observation (see Table 1) suggests that lexical causative (i.e., transitive) verbs are associated with inactive intransitives, whereas productive causatives are

associated with active intransitives and transitive verbs. This correlation gives us a first clue to the problem. Lexical causatives represent a situation where the causee is conceptualized as a patient, and productive causatives express a situation where the causee is also an agent, one who acts as a volitional entity in carrying out the caused event. Physical **manipulation** of the causee is normal where the causee does not act as a volitional entity, whereas oral direction-giving suffices in cases where the causee is a volitional entity capable of executing a required activity. Causation here is **indirect** in the sense that the causer does not get physically involved in the execution of the caused event. Our intuitive understandings of the two types of causation in the popular terminology are thus based on the two prototypical causative situations, one involving a patient causee and the other an agentive causee.

Therefore it is a good first approximation to define direct causation as a situation involving an agentive causer and a patientive causee and indirect causation as one involving two agentive participants, one an agentive causer and the other an agentive causee. When the causee is patientive, the execution of the caused event is wholly dependent on the causer's action. In most cases this dependence entails a spatio-temporal overlap of the causer's activity and the caused event, to the extent that the two relevant events are not clearly distinguishable. This spatio-temporal overlap of the causing and the caused event motivates conceptualization of the entire direct causative situation as a single event. On the other hand, when the causee is an agent with its own volition, a degree of autonomy is accorded to the caused event. Although the causer is the ultimate source of the caused event, both the causing and the caused event enjoy some degree of autonomy. Moreover, because the caused event has its own agent, it may have its own spatial and temporal profiles distinct from those of the causing event. This separability of the caused event from the causing event, captured by the term 'distant causation,' resists integration of the two, disallowing the construal of the whole causative situation as a single event. The distinctions between direct and indirect causation being discussed here can be made more explicit by means of event structure representations of the following kind.

In these diagrams A stands for an agent and P a patient. An arrow represents an event segment, which is a potential unit for an event encodable by a verb. Representation A? P ? , as in Fig. 1, indicates a transitive action chain, such that A's action carries over to the event segment involving P. This is in fact what happens when A engages himself in direct causation. For example, if A kills P, A's causing action, (A? P), carries over to P's dying event (P?). Due to this transitivity of A's action, there is a spatio-temporal overlap in direct causation between the causing-event segment and the caused-event segment. In indirect causation, both temporal and spatial profiles of the causing-event and the caused-event segment may be distinct. At least the temporal profiles must be distinct for a situation to be conceptualized as indirect, but the spatial profile can be the same for the causing and the caused event-segments.

The ultimate defining feature of direct and indirect causation is the spatio-temporal configuration of the entire causative event, rather then the nature of the causee. The notion of direct causation emanates from conceptualization of a causative situation as involving the same spatio-temporal profile for the causing-event segment and the caused-event segment, as in Fig. 1. Indirect causation, on the other hand, refers to conceptualization of a causative situation as involving two relevant sub-events that have two distinct temporal profiles and two potentially distinct spatial profiles, as in Fig. 2. These two conceptualization patterns obtain most typically when the nature of the causee is correlated as in these figures. But the typical connection between direct causation and a patientive causee and between indirect causation and an agentive causee—hence the general correlation of verb types and causative types (see Table 1)—is basically due to our perception of the world. A patientive object undergoes only a limited kind of change on its own. Many other kind of changes are brought about by the external force directly acting on it. An agentive causee, on the other hand, can bring about an event apart from the causer's direct intervention in the execution of the caused event. It is, however, possible to represent a causative situation as indirect when the caused event with a patientive causee is deemed to have a spatio-temporal profile distinct from that of the causing event. English sentence *John caused the metal to melt* possibly expresses such an indirect causative situation, contrasting it with a direct causative expression such as *John melted the metal*[2].

As alluded to earlier, the notion of single-event causation vs. two-event causation is based on the configuration of the spatio-temporal profiles of the two relevant event segments. Where there is a single spatio-temporal profile for the causing-event and the caused-event segment, as in Fig. 1, the whole causative situation tends to be construed as a single event, whereas a situation involving distinct spatial profiles for the two relevant event segments, as in Fig 2, is likely to be conceptualized as consisting of two distinct events. The tendency for transitive verbs to be unanalyzable lexical units represents this conceptualization of direct causation as a unitary event. Haiman (1985) interprets in terms of the iconic principle this and the tendency for indirect causation to be expressed as a

complex form. That is, there is an iconic connection between conceptual structure and linguistic form in such a way that formal distance correlates with conceptual distance. We shall, however, show subsequently that the formal characteristic is not an entirely reliable measure for a cross-linguistic investigation of the form-function correlation; a more reliable predictor is the degree of productivity of the form (see Section 5).

As pointed out by Shibatani (1973), there are situations where lexical causatives and productive morphological or syntactic causatives do not align with the direct/indirect opposition discussed above. In some situations, lexical causatives express an indirect causative situation involving two agents (the causer and the causee), and in others productive forms are used to express a direct causative situation involving a patient causee. Most of these irregular form-meaning correspondences, however, can be accounted for in terms of lexical gaps and pragmatic conditioning on the use of lexical causatives (see Shibatani 1973). In Section 4 below, we shall examine a new situation where cross-linguistic variation in the form-meaning correspondence is observed.

2.2. Marathi causatives

Though the transitive/intransitive as well as the active/inactive distinction in intransitive verbs is important, neither is sufficient to account for the range of causative expressions. In order to see this, let us examine causative forms in Marathi (a New Indo-Aryan language), which has a richer system of causative expressio ns than Japanese. From a morphological point of view, we can distinguish two types of causative in Marathi, namely synthetic (or morphological) and analytic (or syntactic). Synthetic causatives can be further divided into the following types[3]:

(4) a. Labiles

      ughaD-Ne 'to open' (intr.) : *ughaD-Ne* 'to open' (tr.)

      moD-Ne 'to break' (intr.) : *moD-Ne* 'to break' (tr.)

  b. Suppletives

      khaa-Ne 'to eat' : *bharaw-Ne/khaa-u ghaal-Ne* 'to feed'

      ye-Ne 'to come' : *aaNa-Ne* 'to bring'

  c. Internal consonant change

      phaaT-Ne ' to tear' (intr.) : *phaaD-Ne* 'to tear' (tr.)

  d. Internal vowel change

      mar-Ne 'to die' : *maar-Ne* 'to kill'

      dzaL-Ne 'to burn' (intr.) : *dzaaL-Ne* 'to burn' (tr.)

  e. Internal vowel and consonant change

      tuT-Ne 'to break' (intr.) : *toD-Ne* 'to break' (tr.)

      suT-Ne 'to get untied/solved' : *soD-Ne* 'to untie/solve'

  f. Suffixation

      waaL-Ne 'to become dry' : *waaL-aw-Ne* 'to dry'

bas-Ne 'to sit' : bas-aw-Ne 'to seat'

Among these, the suffix type is the predominant. All these forms qualify as lexical causatives, however, because they are not predictable on the basis of intransitive verbs; they must be learned individually and must be listed in the lexicon. The -aw suffix has a moderately high degree of productivity, as those intransitive verbs that do not have the corresponding causative forms in (a)-(e) above take this suffix. On the other hand, it is not fully productive, as it cannot be attached to those intransitives having causatives of the (a)-(e) pattern; *ughaD-aw-Ne 'to open', *khaa-aw-Ne 'to feed', *mar-aw-Ne 'to kill', etc. are not possible. Neither does it easily occur with regular transitive verbs (see below).

Analytic causatives involve the following 'auxiliary' verbs:

(5) a. *laaw-Ne*   '(lit.) apply, attach' Used for coercive indirect causation, e.g.;

    raam-ne   shaam-laa   patra   lih-aaylaa   laaw-l-a
    Ram-ERG   Sham-DAT   letter.N   write-PTCPL   make-PERF-N
    'Ram made Sham write a letter.'

   b. *bhaag paaD-Ne* '(lit.) make fall in one's destiny' Used for coercive causation, e.g.;

    raam-ne   shaam-laa   bas-aaylaa   bhaag paaD-l-a
    Ram-ERG   Sham-DAT   sit-PTCPL   make-PERF-N
    'Ram left Sham with no choice but to sit.'

   c. *de-Ne* '(lit.) give' Used for permissive causation, e.g.;

    mi   raam-laa   bas-u   di-l-a
    I   ram-DAT   sit-PTCPL   give-PERF-N
    'I let Ram sit.'

   d. *ghe-Ne* '(lit.) take' Used for benefactive causation, e.g.;

    mi   raam-kaDun   kholi   saaph   kar-un   ghet-l-i
    I   Ram-by   room.F   clean   do-CONJ   take-PERF-F
    'I had the room cleaned by Ram.'

First, the distinction between synthetic causatives and the analytic *laaw-Ne* 'make (<apply, attach)' causative are similar to the one between Japanese lexical and productive morphological causatives. The former are generally paired with inactive intransitive verbs (but see below), the latter with active intransitive and transitive verbs. Thus all the synthetic causatives of the form (4a)-(4e) are paired with inactive intransitive verbs, and the situations expressed by them involve direct causation. The majority of the -aw suffix forms (4f) are also paired with inactive intransitive verbs. In contrast to these synthetic causatives, periphrastic *laaw-Ne* 'make' causatives cannot be based on inactive intransitives; e.g.,

(6) a. kapDe   waaL-l-e
        clothes.N   dry-PERF-N
        'The clothes dried.'

    b. raam-ne   kapDe   waal-aw-l-e
        Ram-ERG   clothes.N   dry-CAUS-PERF-N
        'Ram dried the clothes.'

    c. *raam-ne   kapDyaan-naa   waaL-aaylaa   laaw-l-a
        Ram-ERG   clothes-ACC   dry-PTCPL   make-PERF-N
        'Ram made the clothes dry.'

(7) a. shaam   buD-l-aa
        Sham   drown-PERF-M
        'Sham drowned.'

    b. raam-ne   shaam-laa   buD-aw-l-a
        Ram-ERG   Sham-DAT   drown-CAUS-PERF-N
        'Ram drowned Sham.'

    c. *raam-ne   shaam-laa   buD-aaylaa   laaw-l-a
        Ram-ERG   Sham-DAT   drown-PTCPL   make-PERF-N
        'Ram made Sham drown.'

In contrast to the *laaw-Ne* 'make' causative, permissive causatives with *de-Ne* 'give' can be based on both active and inactive intransitives as well as regular transitives; e.g.,

(8) a. mi   kapDe   waaL-u   di-l-e
       I   clothes.N   dry-PTCPL give-PERF-N
       'I let the clothes dry.'

    b. mi shaam-laa   buD-u   di-l-a
       I   Sham-DAT   drown-PTCPL   give-PERF-N
        'I let Sham drown.'

    c. mi shaam-laa   paL-u   di-l-a
       I   Sham-DAT   run-PTCPL   give-PERF-N
        'I let Sham run.'

    d. mi shaam-laa   patra   lih-u   di-l-a
       I   Sham-DAT   letter.N   write-PTCPL   give-PERF-N
        'I let Sham write a letter.'

Benefactive causatives with *ghe-Ne* 'take', on the other hand, express a situation where the causer gets something done with a tangible beneficial effect. Consequently, they typically require an object or an effect transferable (either literally or metaphorically) to the causer. Intransitive verbs in general cannot form benefactive causatives, because they do

not involve an object. Even transitive verbs may not form benefactive causatives when the object is not construable as something transferred to the causer. Observe the following (see also (b) below);

(9) a. mi   raam-kaDun patra   lih-un   ghet-l-a
        I   Ram-by   letter.N   write-CONJ   take-PERF-N
        'I had the letter written by Ram.'
    b. mi raam-kaDun kholi   saaph kar-un   ghet-l-i
        I Ram-by   room.F   clean do-CONJ   take-PERF-F
        'I had the room cleaned by Ram.'
    c. mi raam-kaDun kombDi   maar-un   ghet-l-i
        I Ram-by   chicken.F   kill-CONJ   take-PERF-F
        'I had the chicken killed by Ram.'
    d. *?mi   raam-kaDun jhuraL   maar-un   ghet-l-a
         I   Ram-by   cockroach.N   kill-CONJ   take-PERF-N
        'I had the cockroach killed by Ram.'
    e. *mi   raam-kaDun bas-un   ghet-l-a
         I   Ram-by   sit-CONJ   take-PERF-N
        'I benefited from Ram's sitting.'
    f. *mi raam-kaDun buD-un   ghet-l-a
        I Ram-by   drown-CONJ   take-PERF-N
        'I benefited from Ram's drowning.'

(9c) and (9d) represent a minimal pair of contrasting examples. (9c) portrays a conventional situation in which the causer gets a chicken for cooking. It is hard to imagine a situation where someone gets a cockroach killed in order to obtain a dead body as in (9d).

   South Asian linguistic studies note a group of verbs called 'ingestives,' which have in common a semantic feature of taking something into the body or mind literally or figuratively (Masica 1976). This class, which is claimed to have unique grammatical properties, consists of verbs like EAT, DRINK, LEARN, SMELL, LICK, etc. Indeed, these verbs behave differently from others in allowing both synthetic and analytic causatives;

(10) a. tyaa-ne   bhaat   khaa-ll-aa
         he-ERG   rice.M   eat-PERF-M
         'He ate rice.'
     b. raam-ne   tyaa-laa   bhaat   bharaw-l-aa
         Ram-ERG   he-DAT   rice.M   feed-PERF-M
         'Ram fed him rice.'

   c. raam-ne   tyaa-laa   bhaat   khaa-ylaa   laaw-l-aa
      Ram-ERG   he-DAT   rice.M   eat-PTCPL   make-PERF-M
      'Ram made him eat rice.'

These verbs naturally permit a permissive causative, but do not allow a benefactive causative for the reason given above—the object referred to does not come into the causer's possession; e.g.,

(11) a.   raam-ne   tyaa-laa bhaat   khaa-u   di-l-aa
         Ram-ERG   he-DAT   rice.M   eat-PTCPL   give-PERF-M
         'Ram let him eat rice.'
     b. *raam-ne   tyaacyaa-kaDun   bhaat   khaa-un   ghet-l-aa
         Ram-ERG   he-by   rice.M   eat-CONJ   take-PERF-M
         'Ram benefited through his eating rice.'

Ingestive verbs behave both like inactive intransitives in having corresponding synthetic causatives and like active intransitives/transitives in permitting analytic *laaw-Ne* 'make' causatives. This pattern indicates that they have a dual property of assigning both an agent and a patient role to the subject of the base verb. Taking something into one's body or mind implies both doing something and being affected at the same time. Profiling the patient role of the subject of these verbs permits their alignment with inactive intransitives, whereas focusing on the agent role aligns them with active intransitives and transitives (see Amberber (2000) on the causativization of the verbs of eating and drinking in Amharic and Dixon (2000:64-65) on a more general discussion on the causativizability of these verbs).

The dual role of ingestive subjects reminds us of those reflexive or middle verbs whose subject nominals also play a dual role. Middle verbs cut across transitive/intransitive classes. Intransitive verbs like SIT and STAND UP as well as ASCEND and COME DOWN are often treated as middle verbs, similar in nature to transitive reflexives DRESS ONESELF, SHAVE ONESELF, COMB ONE'S HAIR, BRAID ONE'S HAIR, etc. (see Kemmer 1988). Indeed, these middle verbs align with so-called ingestive verbs with respect to the pattern of causativization, suggesting that the latter should be treated as middles, rather than as an distinct group of verbs—contra the Indo-Aryan linguistic tradition; e.g.,

(12) a. tyaa-ne   kapDe   ghaat-l-e
       he-ERG clothes.N   wear-PERF-N
       'He wore the clothes.'
    b. raam-ne   tyaa-laa   kapDe   ghaat-l-e
       Ram-ERG   he-DAT   clothes.N dress-PERF-N
       'Ram dressed him. '

   c. raam-ne   tyaa-laa kapDe   ghaal-aaylaa   laaw-l-e
      Ram-ERG he-ACC clothes.N   wear-PTCPL   make-PERF-N
      'Ram made him wear the clothes.'

(13) a. raam bas-l-aa
      Ram sit-PERF-M
      'Ram sat.'
   b. mi   raam-laa   bas-aw-l-a
      I   Ram-DAT   sit-CAUS-PERF-N
      'I sat/seated Ram.'
   c. mi   raam-laa   kholi-t   bas-aaylaa laaw-l-a
      I   Ram-DAT   room-in sit-PTCPL   make-PERF-N
      'I made Ram sit in the room.'

A closer analysis of base-verb semantics is important not only in accounting for the various restrictions that different causativization processes may impose, but also in understanding the various ways that different groups of verbs align. Especially important is the semantic role borne by the subject of the base verb —whether it is the agent, the patient or both. These considerations all point to the conclusion that causativization processes are organized largely according to the semantics of the base verbs (see contributions to Shibatani (to appear)).

3. THE SEMANTIC CONTINUUM: SOCIATIVE CAUSATION

The direct/indirect opposition is fundamental in the description of causative constructions, because in most languages transitive verbs expressing direct causation exist as lexical units, and there is often an additional means to express indirect causation. This section points out that there is an intermediate category between direct and indirect causation and demonstrates that these different types form a continuous semantic space bounded by direct causation on one end and indirect causation on the other. We will also show in Section 6 that the intermediate category provides an important clue to understanding the development of a certain range of meaning associated with causative morphemes in a fairly large number of languages.

As noted earlier, the *-aw* suffix forms are dominant among Marathi synthetic causatives. The majority of these forms are based on inactive intransitive verbs as below:

(14)   *aaT-Ne* 'to get shrunk' : *aaT-aw-Ne* 'to shrink something'
          bhidz-Ne 'to get wet' : *bhidz-aw-Ne* 'to wet something'
          suk-Ne 'to become dry' : *suk-aw-Ne* 'to dry something'

buD-Ne 'to get drowned' : *buD-aw-Ne* 'to drown someone'
ghaabar-Ne 'to get frightened' : *ghaabar-aw-Ne* 'to frighten someone'
paT-Ne 'to get convinced' : *paT-aw-Ne* 'to convince someone'

The *-aw* suffix is in a paradigmatic relation with other synthetic causative forms, such that those intransitives having corresponding synthetic causative (transitive) verbs cannot take this suffix in forming a lexical causative. In addition to middle verbs—construable as either active or inactive—certain active intransitives permit *–aw* suffixation. For example;

(15)   *caal-Ne* 'to walk' : *caal-aw-Ne* 'to make someone walk'
        kheL-Ne 'to play' : *kheL-aw-Ne* 'to make someone play'
        mut-Ne 'to urinate' : *mut-aw-Ne* 'to make someone urinate'
        naac-Ne 'to dance' : *naac-aw-Ne* 'to make someone dance'
        paL-Ne 'to run' : *paL-aw-Ne* 'to make someone run'

This is a case where *-aw* forms convey a situation involving an agentive causer and an agentive causee, as with indirect causative expressions using the auxiliary verb *laaw-Ne* 'make (<apply, attach)'. Nevertheless, typical situations expressed by these differ significantly. These *–aw* forms express a situation intermediate between direct and indirect causation. For example, *paL-aw-Ne* 'to make someone run' describes a situation in which the causer runs while accompanying the causee. That is, like direct causation, the *-aw* causatives in question convey a situation where the causer's action and the causee's action show a spatio-temporal overlap. Moreover, in many cases the causer performs the same action as the causee in executing the caused event. On the other hand, the involvement of two agents shows a resemblance to indirect causative forms. We term this intermediate category 'sociative causation' and the form expressing it 'sociative' (cf. Pardeshi 2000, who suggests the term 'associative,' and Dixon 2000, whose 'involved/not involved' distinction seems to point to this category). The meaning contrast between a sociative and an indirect causative is substantiated by the contrast between (17a) and (17b)[4];

(16) raam   don   kilomiTar   paL-l-aa
      Ram   two   kilometer   run-PERF-M
      'Ram ran two kilometers.'

(17) a. shaam-ne   raam-laa   don   kilomiTar   paL-aw-l-a (Sociative)
        Sham-ERG   Ram-DAT   two   kilomete   run-CAUS-PERF-N r
        *paN   shaam raam-barobar   paL-l-aa   naahi
         but   Sham   Ram-with   run-PERF-M   not
        'Sham made Ram run two kilometers but he did not run with Ram.'

b. shaam-ne   raam-lA   don   kilomiTar   paL-aaylaa laaw-l-a (Indirect)
   Sham-ERG Ram-DAT   two   kilometer   run-PTCPL make-PERF-N
   paN shaam   raam-barobar   paL-l-aa   naahi
   but Sham   Ram-with   run-PERF-M   not
   'Sham made Ram run two kilometers but he did not run with Ram.'

In addition to active intransitive verbs, certain transitive verbs also yield *-aw* constructions. For example;

(18) a. mi   raam-kaDun kholi   saaph kar-aw-l-i
     I   Ram-by   room.F   clean do-CAUS-PERF-F
     'I had Ram clean the room.'
   b. shaam-ne   raam-kaDun patra   lih-aw-l-a
     Sham-ERG   Ram-by   letter.N   write-CAUS-PERF-N
     'Sham had Ram write a letter.'

These forms also express situations where two agents exist. As before, they describe a distinct situation that differs from ordinary indirect causative situations. For example, (18a) means that the speaker was in the room supervising Ram's cleaning. In (18b), it is most likely that Sham is illiterate and makes Ram write the letter by dictating to him. That the causer in these forms must accompany the causee in the execution of the caused event is seen from the following contrast, which shows that the spatio-temporal overlap of the causer's action and the causee's action need not obtain in the analytic causative construction.

(19) a. *mi ek   taas baaher   phiraaylaa gelo aaNi tyaa   weL-aat
      I one   hour out   walk   went and during   time-in
      raam-kaDun kholi   saaf kar-aw-l-i (Sociative)
      Ram-by   room.F   clean do-CAUS-PERF-F
      'I went for a walk for one hour and during that time had Ram clean the room.'
   b. mi   ek   taas baaher   phiraayla gelo aaNi tyaa   weL-aat
      I   one   hour out   walk   went and during   time-in
      raam-kaDun kholi   saaph kar-aaylaa laaw-l-i (Indirect)
      Ram-by   room.F   clean do-PTCPL   make-PERF-F
      'I went for a walk for one hour and during that time had Ram clean the room.'

Although sociative causatives can be derived from transitive verbs (as shown above), periphrastic expressions are preferred. Benefactive *ghe-Ne* 'take' causative are employed when a benefactive sense is appropriate [(20a)], or the *laaw-Ne* 'make' causative are used

when coercion is involved [(20b)].

(20) a. mi   raam-kaDun kholi   saaph kar-un   ghet-l-i
         I   Ram-by   room.F   clean do-CONJ   take-PERF-F
         'I got the room cleaned by Ram.'
     b. shaam-ne   raam-kaDun patra   lih-un   ghet-l-a
        Sham-ERG Ram-by   letter.N   write-CONJ   take-PERF-N
        'Sham got the letter written by Ram.'

There is thus a tendency to avoid sociative expressions involving transitive bases, indicating a preference for analytic causatives when two agents are involved and when the causee agent's action is clearly separable from the causer's.

   Sociative causatives based on transitive verbs differ slightly from those given involving active intransitives. In the latter case, the causer is more actively involved in the execution of the caused event—the causer actually runs with the causee in (17b). In the case of sociatives based on transitive verbs, however, the causer does not get involved to the same extent. In (18a) the speaker does not necessarily do the cleaning with Ram, and in (18b) Sham does not actually write the letter.

   The intermediate status of sociative causatives is nicely shown by Bruce (1984:155-156) for the Alamblak (Papua New Guinea) sociative causative formative *ha-*, which contrasts with both the direct causative formative *ka-* and the indirect causative serial verb construction involving *hay-* 'give';

(21) a. ka-fkne-më-r-m (Direct)
            DP.CAUS-enter-R.PST-3SM-3-PL
            'He caused them to enter (something) by physically taking them.'
     b. ha-fkne-më-r-m (Sociative)
            DE.CAU-enter-R.PAST-3SM-3PL
            'He caused them to enter (something) by entering with them.'
     c. yima-r   ha-noh-më-r-a (Indirect)
            person-3SM give-unconscious-R.AST-3SM-1S
            'A man gave me (something) (causing) me (to become) unconscious.'

   In what Bruce (1984) calls 'direct physical causative,' represented by (21a) above, the causer 'causes the effect on [the causee] by doing something involving physical contact with [the causee]'. '[The causee] is only a passive participant….' (155). In the case of what we call sociative illustrated by (21b), 'something (x) happens to the causee (or the causee does x) because the same thing (x) happens to the causer (or the causer does x), or because a similar thing (y) happens to the causer (or the causer does y) where y involves a feature in

common to both x and y.' 'That which happens to the causer and causee (or that which they do) occurs at or near the same time and while the causer and causee are in physical proximity.' (156) As for the indirect causative exemplified by (21c); 'The causer of which the first verb root is predicated…causes the effect…' 'The effect need not overlap or occur in immediate succession with the cause and the two participants need not be at the same place when the effect takes place.' (156)

We recognize at least the following three types of sociative construction: (i) joint-action, (ii) assistive, and (iii) supervision, as illustrated by the following Japanese examples:

(22) a. Hahaoya-ga kodomo-o   asoba-se-te   i-ru. (Joint-action)
        mother-NOM child-ACC   play-CAUS-CONJ be-PRES
        'Mother is making the child play.'
    b. Hahaoya-ga   kodomo-ni osikko-o   sa-se-te   i-ru. (Assistive)
        mother-NOM child-DAT   pee-ACC   do-CAUS-CONJ   be-PRES
        'Mother is making the child pee.'
    c. Hahaoya-ga   kodomo-ni hon-o   yoma-se-te   i-ru. (Supervision)
        mother-NOM child-DAT book-ACC read-CAUS-CONJ be-PRES
        'Mother is making the child read a book.'

Two features distinguish sociatives from indirect causatives. First, when a language allows alternative marking of the causee nominal, the accusative version generally conveys sociative causation, whereas the dative or other oblique marking signals indirect causation. In Japanese, either the accusative or the dative can mark the causee of an intransitive-based causative, and the former expresses a sociative meaning as in (22a). A similar observation was made for Hungarian by Hetzron (1976). The accusative causee-marking in this language expresses a joint-action or supervision sociative meaning, wheras the instrumental causee-marking indicates indirect causation. Observe the following examples from Hetzron (1976:394):

(23) a. Az   ápolóno   minden nap egy órát   sétáltata   **ot**. (Accusative)
        the   nurse   every day one hour:ACC made:walk   he:ACC
        'The nurse walked him for an hour every day.'
    b. Az orvos   minden   nap egy órát   sétáltatott **vele**. (Instrumental)
        the doctor   every   day one hour:ACC made:walk he:INSTR
        'The doctor had him walk for an hour every day' (as a prescription)

With regard to the accusative forms of the above type, Hetzron (1967:394) remarks that 'the causer personally conducts the operation involved and supervises every step…'

Second, the interpretation of the aspectual form differs between sociatives and indirect causatives. In the former, the progressive form is interpreted either as expressing the

progressive meaning, i.e., an on-going activity, or a generic activity. In the case of indirect causatives, the progressive form conveys only the generic sense.

Both joint-action and assistive sociatives entail physical involvement of the causer in the caused event, just like direct causation. Supervision sociatives, on the other hand, are much more similar to indirect causation in that the causer and the causee may be physically separated. Indeed, supervision can be performed long-distance, such that (23) can depict a situation where the mother is outside the room where the child is reading a book. Thus sociatives themselves form a continuum, with the joint-action type leaning toward the direct causation pole and the supervision type toward the indirect end. The continuum is easier to see when the following event-structure diagrams are compared to those representing direct and indirect causation, shown as Figs. 1 and 2 in Section 2.

In both direct causation and joint-action/assistive sociative, there is a spatio-temporal overlap between the causing-event segment and the caused-event segment, thereby showing semantic affinity even though the causee roles are different. In the case of supervision sociative, there is only partial temporal overlap between the causing-event segment and the caused-event segment, and the spatial profiles of these event segments may be distinct. In indirect causation, both temporal and spatial profiles of the causing-event and the caused-event segment may be distinct.

As noted earlier, a single-event causation of the direct causative type is typically expressed by lexical causatives (or transitive verbs), a two-event causation of the indirect type is typically expressed by productive forms, either a morphologically complex form or a periphrastic construction. What is interesting about sociative causatives is that this form-meaning correspondence does not obtain in a straightforward manner. In fact, languages differ as to which sociative type their causative forms may express. Marathi -*aw* suffix forms, for example, do not easily express a long-distance supervision sociative situation such that forms (18a)-(18b) imply that the causer was close to the place of the caused event, whereas the Japanese form (22c), as well as its English counterpart as shown in the translation, readily allows a reading of long-distance supervision. On the other hand, the Mandarin Chinese *jiào* causative, as seen below, can express only indirect causation and supervision sociative situations, and it is incapable of expressing assistive or joint-action sociative situations.

(24) Mama   jiào háizi kàn shu.
     mother make child read book

'Mother made the child read a book.'

What we find here is that some causative forms (e.g., the Mandarin Chinese *jiào* causative) express the domain closer to that of indirect causation; some others (e.g., English *make* and Japanese *sase*-forms) extend the domain of coverage further toward the direct end. Marathi *-aw* and Guaraní *mbo-/mo*-causatives (Vázquez, to appear) cover the domains closer to the direct end. But they too differ in that the former covers a domain larger than the latter. The observed pattern of distribution can be summarized as below:

In the next section we provide an overall framework that accounts for the distribution pattern observed in Table 2. The table also shows that languages use formally different constructions in expressing a similar domain of meaning. For example, in expressing sociative situations, Marathi uses the lexically restricted *-aw* form, whereas Japanese uses the productive *-sase* form, and English and Chinese use syntactic constructions. This overlapping distribution of different types of causative construction indicates that they are not functionally discrete as may be suggested by the formal typology in terms of the tripartite classification of lexical, morphological, and syntactic. Indeed, we show, in the next section, that causative constructions are not even formally discrete.

4.   CONTINUUM IN THE FORMAL DIMENSION

The formal dimension of causativization also forms a continuum, from an analytic pattern through a synthetic one to the morphologically unanalyzable unit. The formal continuum represents the degree of synthesis or fusion (Sapir 1921) and reflects the degree of grammaticalization. Though convenient as a first approximation, the popular tripartite classification of causatives as syntactic, morphological, and lexical is a gross simplification; each class contains members showing different degrees of synthesis, and the

boundaries between the types are also fuzzy.

When a causative meaning is expressed by an independent verbal element, we may identify the construction as syntactic, analytic, or periphrastic. What can be identified as syntactic, however, varies considerably from one language to another, as well as from one construction to another within a single language. The following causative constructions from three different languages can be identified as syntactic, for example, but they differ in the degree of synthesis or integration of the materials of the subordinate process into the main clause (Givón 1980).

(25) Korean
    a. ai-ka   chaek-ul   ilk-etta.
       child-NOM   book-ACC   read-PAST.IND
       'The child read the book.'
    b. emeni-ka   [ai-ka   chaek-ul   ilk-key]   hay-etta.
       mother-NOM   child-NOM   book-ACC read-COMP   do-PAST.IND
       'Mother made the child read the book.'
    c. emeni-ka   ai-eykey/lul   [chaek-ul   ilk-key]   hay-etta.
       mother-NOM   child-DAT/ACC   book-ACC read-COMP   do-PAST.IND
         'Mother made the child read the book.'
(26) German
    Hans liess seinen Sohn den Brief abtippen.
    'Hans made his son type the letter.'
(27) French
    a. J'ai fait préparer la mayonnaise à Jean.
      'I made John prepare the mayonnaise.'
    b. J'ai laissé l'enfant manger un gâteau.
      'I let the child eat a cake.'

In all these examples, the causative 'auxiliaries' (Korean *ha-ta* 'do', German *lassen* 'make', and French *faire* 'make') inflect as verbs. But the constructions differ in the degree of integration into the main clause of the materials semantically belonging to the caused event. The Korean *ha-ta* causative shows the least degree of integration. The preferred pattern is (25c), where the causee nominal is integrated into the main clause and receives either dative or accusative marking; this option is normal for an indirect object in the language. (25b) is also possible, however, where the caused event is expressed in the structure of an independent clause, with the causee nominal marked by the nominative enclitic. The combination of the complement verb, *V-key,* and the causative auxiliary *ha-ta* 'do-IND' can also be separated by the negative particle *an* 'not' or by the topic enclitic –*nun* (see Maldonado and Nava, to appear, for a similar periphrastic causative in Tarascan).

The German *lassen* construction lies midway between the Korean causative and the French *faire* construction in that although it disallows nominative marking on the causee nominal, it retains it in the object position of the causative verb. The object status of the causee nominal (or perhaps the verbal status of *lassen*) is problematic, however, in that it cannot be made the subject of a passive clause—in contradistinction to the object of a less grammaticalized causative verb such as *zwingen* 'to force'. Observe the following contrast[5];

(28) a. Man zwang den Studenten abzureisen.
      'They forced the students to leave.'
  b. Der Student wurde gezwungen abzureisen.
      'The student was forced to leave.'
(29) a. Man liess den Studenten abreisen.
      'They made/let the student leave.'
  b. *Der Student wurde abreisen gelassen.   (Kulikov, to appear)

It is well known that the French *faire* causative shows a high degree of complement integration into the main clause. Unlike German *lassen* or French *laisser* 'let' causative, for example, the causee of the *faire* causative cannot appear in the object position of the causative verb (cf. (27a) and (27b)). Indeed, this causative does not permit the separation of *faire* from the main verb by the insertion of a pronominal clitic, and its case distribution follows the basic pattern of a simplex sentence involving three-place verbs (e.g., *donner* 'to give' and *payer* 'to pay').

As the comparison of French *faire* and the *laisser* causative indicates, there is some variation in the degree of synthesis among syntactic causatives within a single language as well. Variation along the formal lines discussed here correlates with the degree of grammaticalization on the semantic side. Causative verbs differ in semantic content from each other. The English verbs *cause, persuade,* and *force* retain their literal meaning, but causative *get, make,* and *have* no longer convey a literal meaning, showing the semantic bleaching characteristic of grammaticalization[6]. Just as German *lassen* 'CAUSE < leave' and *zwingen* 'force' show parallel semantic and structural characteristics of grammaticalization (see (28) and (29) above), French causatives *faire* < 'do/make' < *laisser* 'leave/let' < *forcer* 'force', reflect a descending degree of grammaticalization in meaning (semantic bleaching) and synthesis (structural integration) (see Achard, to appear, and Maldonado and Nava, to appear).

One interesting grammatical repercussion of the difference in the degree of grammaticalization can be seen in the Marathi benefactive and permissive causative constructions. The Marathi benefactive causative employs the verb *ghe-Ne* 'to take', and the permissive causative *de-Ne* 'to give'. Used as main verbs, these naturally require an object nominal referring to a transferred object. This lexical meaning is retained in the

regular (i.e., non-causative) benefactive construction using *de-Ne* 'to give', such that benefactive conversion is blocked when no transferable object is involved; e.g.,

(30) a. raam-ne   sitaa-laa   pustak   wikat   ghe-un   di-l-a
      Ram-ERG   Sita-DAT   book.N   purchase take-CONJ give-PERF-N
      'Ram bought Sita a book.'

   b. * raam-ne   sitaa-laa   baadzaar-aat dzaa-un   di-l-a
       Ram-ERG   Sita-DAT   market-in   go-CONJ   give-PERF-N
       '(lit.) Ram went Sita to the market/Ram went to the market for Sita.'

In permissive causative constructions, however, the demand for the existence of a transferable object[7] no longer remains; e.g.,

(31) a.   raam-ne   sitaa-laa   pustak wikat   ghe-u   di-l-a
      Ram-ERG   Sita-DAT book.N   purchase   take-PTCPL give-PERF-N
      'Ram let Sita buy a book.'

   b. raam-ne   sitaa-laa   baadzaar-aat   dzaa-u   di-l-a
      Ram-ERG   Sita-DAT   market-in   go-PTCPL   give-PERF-N
      'Ram let Sita go to the market.'

Compared to the *de-Ne* permissive causative, the *ghe-Ne* 'take' benefactive causative requires the presence of an object nominal construable as something to be transferred to the causer (see earlier discussion in section 2.2); e.g.,

(32) a. raam-ne   sitaa-kaDun patra lih-un   ghet-l-a
      Ram-ERG   Sita-by   letter.N write-CONJ take-PERF-N
      'Ram got the letter written by Sita.'

   b. *raam-ne   sitaa-kaDun baadzaar-aat   dzaa-un   ghet-l-a
      Ram-ERG   Sita-by   market-in   go-CONJ   take-PERF-N
      'Ram got Sita to go to the market/Ram benefited from Sita's going to the market.'

This observation suggests that the permissive causative is far more advanced in the grammaticalization of *de-Ne* 'to give' than the benefactive causative is with *ghe-Ne* 'to take,' which still retains the lexical properties of its source in requiring a transferable object.

The transition from periphrastic/syntactic constructions to the morphological causatives is not that easy to witness, though the French *faire* construction comes close to showing this transitional stage. Even a clearer and perhaps a slightly more advanced case than the French *faire* case is the *-a(k)* causative in Shipibo-Konibo as described by Valenzuela, to appear.

Etymologically this form appears related to the transitive verb *ak-* 'to make'. In forming a causative expression, it forms a phonological word together with an adjectival root as well as other endings such as the plural marker and an aspectual suffix, as in *nenké-ak-kan-ai* (long-CAUS-PL-INCOMPETIVE) '(people are) lengthening (something)'. But the *-a(k)* form allows insertion of modifying morphemes between the suffix and the root. It also takes a conjoined root form as an input as in [*pené itan bená*]*-a-ke* ([shiny and new]-make-COMPLETIVE) 'made (something) look shiny and new'. (See Valenzuela, to appear, for details as well as Queixalós, to appear, for a similar situation in Sikuani.)

The periphrastic-morphological continuum is most clearly seen in the etymological connections between causative affixes and lexical verbs. Many affixes such as Quechua *-ci* and Marathi *-aw* do not have a lexical meaning, nor do they show any obvious phonological resemblance to independent lexical items. Still, in the continuum model we are developing, we expect to find such cases, and indeed we do. We already noted that the Shipibo-Konibo suffix *-a(k)* is likely to be related to the verb *ak-* 'to make'. Nedjalkov & Silnitsky (1973) report that the Manchu causative-passive suffix *-bu* is traceable to the verb 'give', and that the Avar suffix *-abi* has an independent use in the form of ? *abi* 'to do'. Payne (to appear) also notes that the Asheninka causative suffix *-akag* is etymologically related to *tag/ag* 'say, do'. In Olutec the transitive verb *yak* 'to let, distribute, give away' has grammaticalized to become the causative suffix *-yak* (Zavala, to appear). Finally, the Japanese causative ending *-sase* is likely to be related to the verb *su-* 'do'. Recall that the Korean syntactic causative makes use of the verb *ha-ta* (see (25)).

Just as syntactic (or analytic) causatives show differences with respect to the degree of synthesis and grammaticalization, morphological causatives also come in a great variety. With regard to synthesis, they can be divided into several groups ranging from agglutinative to pure lexical forms that are morphologically unanalyzable. Agglutinative causatives (e.g., Japanese *-sase* and Marathi *–aw*) have clearly segmentable affixes that can be identified as causative morphemes. Fusional (or inflectional) causatives involve internal vowel or consonantal changes or both, as in the Marathi pair *phuT-Ne* 'break (intr.)' vs. *phoD-Ne* 'break (tr.)' (see (4c-d). Interesting arrays of fusional causatives have developed among Tibeto-Burman languages, where the proto-causative suffix **-s* has been incorporated into adjacent consonants, even developing a tonal contrast for causative alternation in Lushai: Cantonese *kwo?* 'wide' : *kwok* 'widen (tr.)'; *saan* 'dispersed' : *saat* 'disperse (tr.)'; *gin* 'solid, tight' : *git* 'to tighten (tr.); Burmese *pyei'* 'full' : *hpyei* 'fill'; *ce?* 'be cooked' : *hce?* 'cook (tr.)'; *su?* 'damp' : *hsu?* 'dampen (tr.)'; Tiddim Chin *púk* 'fall' : *pʰúk* 'fell'; *kìa* 'fall' : *xìa* 'drop (tr.)'; *ká??* 'raise oneself' : *xá??* 'lift something'; Lushai *núy* 'laugh' : *nùy* 'laugh at'; *hér* 'be turning' : *hè?* 'to turn something'; *?áaw* 'shout' : *?àaw* 'call to' (see Matisoff 1976).

Pure lexical causatives are those in which there is no identifiable causative marking vis-à-vis their non-causative counterparts. Most, if not all, languages have basic (causative)

transitive verbs that have no identifiable causative marking, such as Japanese *waru* 'to break (tr.)'. Some of these may have intransitive (anticausative or decausative) counterparts, such as Japanese *war-e-ru* 'to break (intr.)'. When intransitive verbs take the same shape as transitive forms, as in English *open* (intr.) : *open* (tr.); *break* (intr.) : *break* (tr.), they are called 'labile'. Suppletive causatives such as English *die : kill* and *eat* : *feed* are also of the pure lexical type.

Although classification on purely morphological grounds is possible, it is important to recognize that (a) the members of the morphological type may not be uniform, and (b) that the transition from the morphological type to the pure lexical type can be gradient. To illustrate the first point, let us look at Japanese transitive verbs. Japanese has a number of pure lexical causatives (e.g., labile *hiraku* 'to open', suppletive *korosu* 'to kill', and underived form *saku* 'to split (tr.)'), as well as a large number of transitive verbs arguably of the agglutinative type; e.g.,

(33)   Intransitives   Transitives (causatives)
         kawak-u 'dry-PRES'   *kawak-as-u* 'dry-AS-PRES'
         wak-u 'boil-PRES'   *wak-as-u* 'boil-AS-PRES'
         ner-u 'sleep-PRES'   *nek-as-su* 'sleep-AS-PRES'
         sam-e-ru 'cool-E-PRES'   *sam-as-su* 'cool-AS-PRES'
         ak-u 'open-PRES'   *ak-e-ru* 'open-E-PRES'
         ag-a-ru 'ascend-A-PRES'   *ag-e-ru* 'ascend-E-PRES'
         tom-ar-u 'stop-AR-PRES'   *tom-e-ru* 'stop-E-PRES'
         or-i-ru 'descend-I-PRES'   *or-os-u* 'descend-OS-PRES'
         ot-i-ru 'drop-I-PRES'   *ot-os-u* 'drop-OS-PRES'

As seen above, the transitive verbs on the right have clearly segmentable morphemes that can be identified as suffixes deriving causative verbs. Morphologically speaking, they are of the same type as the agglutinative causative *-sase* forms; e.g., *mi-sase-ru* 'see-CAUS-PRES/show', *kaka-se-ru* 'write-CAUS-PRES/cause to write'. But these two types of agglutination differ with respect to regularity/productivity. The *-sase* causatives are entirely regular and the morphological shapes are determined on the basis of the phonological environment; consonant-ending roots take the *-se* form with an intervening thematic vowel /a/, and vowel-ending roots take the *-sase* form. Given the verb root, one can predict the exact shape of the *-sase* causative form. This is not the case with the suffixed forms in (33). Although there is a certain degree of productivity in some transitive-intransitive patterns, the suffixes involved are lexically determined; they are not interchangeable, and given an intransitive verb root there is no way of predicting the correct transitive form. The causative verbs in (33) are in a paradigmatic relation with pure lexical causative transitives, and accordingly, traditional analyses, if they ever analyze these forms

morphologically, treat the suffixes in (33) as transitivizing, rather than causative, suffixes.

Difficulty in drawing a sharp boundary between pure lexical causatives and morphological causatives is seen in Turkish. This language has pure lexical causatives such as *kir-* 'to break', *yirt-* 'to tear', and *yak-* 'to burn', and productive morphological ones involving suffixes *–Dir* and *–t* ; *öl-* 'die' : *öl-dür* 'kill', *oku-* 'read' : *oku-t* 'make read'. These productive forms are entirely regular—the choice of the suffixes is phonologically determined; *-Dir* after consonants and *–t* after polysyllabic stems in vowels, *r*, and *l*. Thus, in these regular causative forms, the relationship between the causatives and the non-causative counterparts is transparent; the relevant suffixes are chosen according to the rule noted above, and removing the causative suffixes yields well-formed non-causative expressions. There are, however, certain forms in which this regularity is obscured. The causative forms of *ak-* 'flow' and *pis-* 'cook', for example, are *ak-it* and *pis-ir*, respectively, rather than expected **ak-tir* and **pis-tir*—the correct causative forms must be individually learned. In some other forms, stem forms change under causativization, as in *kalk-* 'get up' : *kal-dir* 'get up', *gör-* 'see' : *gös-ter* 'show' (see Kornfilt 1997:331-334). These forms involve suffixes, which can be easily segmented, and they qualify as morphological causatives, but they are entirely irregular and are functionally more similar to unanalyzable lexical causatives than to productive morphological forms (see below).

The formal continuum discussed above can be summarized as in the following table illustrated by Marathi forms:

5. FORM-MEANING CORRELATIONS

Aside from the high relevance of the representation in Table 3 to the grammaticalization studies, the utility of such representation rests on whether it makes a significant prediction about the cross-linguistic patterns of the form-function correlation, capturing which is the goal of a functional typological enterprise. On this question, Comrie (1981:172) suggests

the following:

> Many languages have a formal distinction correlating with this distinction between direct and indirect causatives [read 'causation']. Moreover, the kind of formal distinction found across languages is identical: the continuum from analytic via morphological to lexical causative correlates with the continuum from less direct to more direct causation.

Dixon (2000:74ff) speaks of the continuum of the formal aspect of causative mechanism in terms of 'compactness,' and sets out the following scale:

(34)   Scale of compactness (Dixon 2000:74)

<div align="center">TYPE OF MECHANISM</div>

more compact	L	Lexical (e.g. *walk*, *melt* in English)
	M	Morphological –internal or tone change, lengthening reduplication, affixation, etc.
	CP	Two verbs in one predicate ('Complex Predicate'), including serial verbs; *faire* in French; compounding…; the causative particle in Kammu,…
	P	Periphrastic constructions with two verbs (a causative
less compact		verb and a lexical verb) in separate clauses

Dixon then shows a correlation between the degree of compactness and various semantic parameters, including the directness parameter. With regard to this parameter, he notes that 'the direct value of the parameter is always marked by the more compact mechanism, and the indirect value by the less compact one' (77).

As Dixon (2000:77) notes, his findings agree with Comrie's observation noted above, and with Haiman's (1985) iconicity principle for the correlation between formal distance and conceptual distance. The problem with these approaches, however, is that the proposed correlations generally obtain only within single languages and that they do not make cross-linguistic predictions. Even within a single language, the suggested correlations may not hold. For example, Dixon considers lexical causatives to be more compact than morphological causatives, hence the former align with direct causation and the latter with indirect causation. If we compare pure lexical causatives in Japanese and productive morphological causatives (the *–sase* forms), the correlation obtains. But we noted earlier that Japanese also has irregular morphological causatives (e.g., *kawak-as-* 'dry (tr.)', *ak-e-* 'open'). According to Dixon's criterion, these tend to be more compact than the *–sase* forms (e.g., *mi-sase-* 'make see', *aruka-se* 'make walk') but less so than lexical causatives. Now, these irregular morphological causatives do not express an intermediate meaning

between direct and indirect causation; rather they align themselves with pure lexical causatives and have the direct causative function. The same can be said about the fusional forms of Marathi (e.g., *maar-* 'kill'), which qualify as a morphological type, but which align with pure lexical causatives in expressing direct causation.

A similar problem is seen between pure lexical causatives and one type of morphological causative and between another type of morphological causative and the periphrastic causative in Amharic. According to Amberber (2000:317ff), Amharic has at least the following four types of causative; (pure) lexical (e.g., *mot?* 'die'*: g?dd?l?*   'kill'), the *a-* morphological causatives (e.g., *m?t't'a* 'come': *a-m?t't'a* 'bring'), the *as-* morphological causatives (e.g., *m?t't'a* 'come' : *as-m?t't'a* 'cause to come'; *k'ʷ?rr?t'?* 'cut' : *as-k'ʷ?rr?t'?* 'cause to cut'), and a periphrastic construction involving the verb *ad?rr?g?* 'to make' (e.g., *aster l?mma w?d? bet   ?nd-i-hed ad?rr?g?-cc* [A. L. to home comp-IMPERF+3M-go+IMPERF make+PERF-3F] 'Aster made Lemma go home'). Amberber's discussion indicates that the less productive *a-* morphological causatives, which apply only to inactive intransitives, align with the pure lexical causatives in expressing direct causation, whereas the more productive *as-* morphological causatives align with the periphrastic constructions in expressing indirect causation. Regarding the latter functional alignment, Amberber (2000:321) says that: 'The periphrastic can apply to both intransitive and transitive Ú verbs and its meaning is indistinguishable from the causative *as-*.' The fact that the more compact *a-* morphological forms are marked for the direct value in contradistinction to the less compact *as-* morphological forms bears out Dixon's prediction. The problem, however, is that these two types of morphological causative do not form a group of their own and function as a group vis-à-vis pure lexical causatives or periphrastic causatives in the language as predicted by Dixon's approach. They split up and each morphological group aligns with the other two types along the productivity parameter.

The problem here originates from Dixon's use of the term 'lexical causatives' and in his purely formal classification. The term 'lexical causatives' has been used by Shibatani (1973/1975, 1976a) in the functional sense and in reference to those forms that need to be learned individually (because of irregularity in form) and to be listed in the lexicon. For him, the distinguishing criterion has been productivity and the distinction drawn has been between lexical and productive causatives, of which the latter of may be morphological or syntactic. Under this interpretation, the term 'lexical causatives' subsumes both what we called pure lexical causatives—those morphologically unanalyzable forms—and irregular forms, which may be morphologically analyzable like the Japanese forms in the right-hand column in (33) and those irregular Turkish forms discussed above. This decision, reached independently, is consistent with the practice of Xolodovich (1969), who restricts the term 'morphological causative' to those formed on a regular and productive basis. Accordingly, 'lexical causatives' include irregular morphological types and pure lexical types (see

Masica 1976:58-59 for a relevant discussion). While basically formal in approach, Comrie (1981:170) recognizes, on the basis of the Japanese data discussed by Shibatani (1976a), the possibility that certain non-productive morphological causatives may align with lexical causatives in their function.

Now consider the *-ku/-ra/-ta* causative suffixes in Tarascan. As discussed by Maldonado and Nava in to appear, the most lexically restricted *–ku* suffix produces direct causatives, whereas more productive *-ra* and *-ta* cover a wider range of causative situations including direct and indirect situations. The productivity parameter, not the formal length or compactness, makes a better prediction for the form-function correlation even within a single language.

A purely formal classification like the one Dixon (2000) proposes not only fails to make correct predictions about the form-meaning correlation of certain morphological causatives, but also fails to make cross-linguistic predictions in a straightforward manner. For example, Japanese productive *-sase* forms are morphological and accordingly more compact than periphrastic constructions like the English *make* causatives. But the former are not correlated with a more direct value than the latter—both typically express indirect causation (as well as sociative causation). To see this, observe the cross-linguistic patterns of form-meaning correspondence in the semantic map given as Table 4 below:

The overall cross-linguistic form-meaning correlation observed in Table 4 indicates that the notion of productivity is a better predictor than a purely formal classification. The most telling example is the Amharic data discussed above. The less productive forms (pure lexical causatives and the *a-* morphological forms) express direct causation, whereas the more productive forms (the *as-* morphological forms and the periphrastic construction with the verb *ad rr g* 'to make') correlate with indirect causation. The same is true with Tarascan suffixes *-ku/-ra/-ta,* which have the same formal degree of compactness in causative formation. Cross-linguistically, productive forms align (whether they are morphological or periphrastic) in expressing indirect causation, and lexically restricted forms align (whether they are morphologically unanalyzable or morphologically complex) in expressing direct causation.

As the preceding discussion should have made clear, productivity itself is gradient: some patterns are more productive than others. For example, Marathi *–aw* causatives are lexically restricted, just like those formed via change in internal segments (see (4)). But, the *–aw* forms are more productive than other lexically restricted forms in the sense that more verbs are related by this suffix than by other means (cf. (4) with (14) and (15)). From our point of view both types of causatives belong to the lexical causative group, but they differ in the degree of productivity. Similarly, Korean *–i/-hi/-li/-ki* causatives (e.g., *po-i-* 'show', *kel-i-* 'make walk'), must be learned separately (other morphologically plausible forms such as the following do not occur; **o-i-* 'make come' or **tali-ki-* 'make run'), just as unanalyzable forms such as *ccic-* 'tear (tr.)' and *yel-* 'open (tr.)' are. Yet there are a fair number of causative verbs that are related by the *–i/-hi/-li/-ki* suffixes to the non-causative counterparts, suggesting a certain degree of regularity in this derivation.

Our account based on the notion of productivity predicts that, among those lexically restricted and listed in the lexicon individually, the ones showing a degree of productivity might lean toward the indirect end of the directness dimension more than ones that lack productivity. This prediction is borne out. In both Marathi and Korean, the *–aw* and *–i/-hi/-li/-ki* forms express not only direct causation but also sociative causation, whereas other lexical causatives in these languages are restricted to the direct causative function. The relevant portion of Table 4 actually looks like the following:

The cline of productivity from the highly regular morphological and syntactic causatives to the limited productivity of certain forms in the lexicon is best understood in terms of historical change. That is, a productive process may narrow down the scope of its application and may lose its productivity. This kind of narrowing phenomenon is observed in the Korean *-i/-hi/-li/-ki* forms. Comparison of Middle Korean (ca. 15th century) and Modern Korean shows that there was a wider range of *–i/-hi/-li/-ki* forms in the former than the latter. For example, Middle Korean texts include expressions such as *mwul-ul kil-i-ta* 'make someone draw water', *sal-i-ta* 'make someone live', *tung-ul kulk-hi-ta* 'make someone scratch the back'. These are no longer usable in Modern Korean, and their meanings must be expressed by the periphrastic *-key ha-ta* construction, which came to be used more widely after the 16th century. In Modern Korean, the majority of the *–i/-hi/-li/-ki* causative forms are correlated with inactive intransitive verbs, with the smallest number of correlations instantiated by base transitive verbs (cf. the Athapaskan pattern discussed below). Recall that the Marathi *–aw* sociatives are also largely correlated with inactive intransitives, and are less favored with transitive verbs than the available periphrastic constructions (see Section 3). We hypothesize that this narrowing of the domain of coverage and eventual lexicalization of a productive process is driven by the force of grammaticalization.

A large-scale pattern of grammaticalization and shrinkage in the coverage of the causative domain is reported for the Athapaskan family by Rice (2000). The case in point is the Athapaskan causative formative ʔ and its variant *h* in Slave. According to Rice, this formative is distributed in the following pattern across the members of the Athapaskan family.

(35)   Bases for causativization (Rice 2000:212)
     1   intransitive verb with patientive argument (all languages)
     2   intransitive verb with agentive argument (Ahtna, Koyukon, Carrier, Navajo)
     3   both intransitive verb and transitive verb (productive) (Koyukon)

Our interpretation of this pattern is that causativization by means of the formative ʔ was once highly productive as in Koyukon throughout the language family. Progression of grammaticalization has had the effect of shrinking the domain of coverage, however, paving a way for a periphrastic construction to fill in the vacuum created (Rice 2000:211). Rice's examples indicate that the forms following the pattern of (35-1) express direct causation; *we-go* 'it is dry': *yé-h-go* 'he/she dried it' (Slave). Some forms following the pattern of (35-2) express sociative causation or perhaps indirect causation; *nee-yo* 'he arrived': *yeenee-ʔ-yo* 'he arrived walking him, he made him walk' (Koyukon); *heesh-aal* 'I step along, shuffle along' : *biyee-ʔ-sháá*ʔ 'I walk (baby) along (by holding its hand)'; *gha-t-na'* 'he was working': *ighe-ʔ-na* 'he is making him work' (Ahtna). The Koyukon

transitive-based causative s following the pattern (35-3) include the following, which are clearly indirect causatives in meaning[7]; *ts'eh nedaa-l'onh* 'he is wearing a hat' : *ts'eh yendaa-?-'onh* 'she let him wear a hat'; *eet needaal-tset* 'he (quickly) put his hand there' : *yaayedaanee-?-tset* 's/he made him touch it, s/he put his/her hand on it.' (Koyukon).

In other words, the distribution pattern in (35) correlates with the pattern of coverage of the directness domain, as shown below:

Again, it is the most productive use of the causative formative, as in Koyukon, that covers the indirect causative domain, with the most restricted use associated with direct causation—the relevant morphological make-up, however, remains constant throughout the family.

As shown above, productivity of the construction correlates more accurately with the directness parameter and makes cross-linguistic comparison more straightforward, because it does not refer to the formal mechanism involved. On the other hand, we do see definite correlation between Dixon's (2000) compactness parameter and productivity. Lexically restricted forms tend to be more compact than highly productive constructions. This phenomenon is due to the grammaticalization process, which tends to lead to attrition of form along with semantic bleaching. Thus grammaticalization of causative constructions has the effect of lexicalization of the expressions (from more productive to less productive processes) with concomitant narrowing of the coverage of the semantic domain, and of formal reduction in size.

One may still want to ask why the observed alignment is between lexical causatives and direct causation and between productive forms and indirect causation rather than the other way around. We believe that this alignment represents an iconic relation between form and meaning, but in a more abstract way than suggested by Haiman (1985). Productive expressions entail a looser connection between the root element and the causative formative,

for by definition virtually any roots can combine with the causative formative in question. This looseness in connection and hence the relative independence of the root element reflects the looser connection between the causing event and the caused event composing indirect causation and the relative autonomy of the latter.

The loose connection discussed here is evident in the event structure representation of indirect causation. As can be seen in Fig. 4 in Section 3, the two event segments composing an indirect causative situation may have distinct spatio-temporal profiles. In lexical causatives, on the other hand, the bond between the root element and the causative formative is much tighter. In the case of pure lexical causatives, e.g., *kill*, the portion corresponding to the caused event—the non-causative portion—is not even identifiable. Even if the lexical causatives involve segmentable affixes, the relationship between the root and the affix is tighter than in the case of productive forms, for specific affixes govern specific roots (see (33), where different suffixes select different roots). This tighter connection between the root element and the causative formative reflects the tighter relationship between the causing and the caused event as expressed by the sharing of a single spatio-temporal profile by the two event segments constituting a direct causative situation (see Fig. 1 in Section 3).

6. CAUSATIVE/APPLICATIVE SYNCRETISM

In this final section we shall examine a phenomenon that points to the reality and significance of the proposed intermediate category of sociative causatives. The case in point is causative/applicative syncretism. In a fair number of languages, causative morphemes are associated with the applicative function of introducing a comitative, instrumental, or benefactive argument. One of the most divergent patterns is seen in the Australian language Yidiny, where Dixon (1977:293-322) identifies six senses associated with the derivational suffix *-nga-l*. These include the causative, the comitative, and the instrumental, as illustrated below:

(36) a. bimbi:ng   nganyany   wudingalnyu (Causative)
        father.ERG   I.ABS   bring up.*ngal*.PAST
      'Father brought me up.'
  b. wagudanggu   wagal   nyina:ngal (Comitative)
        man.ERG   woamn.ABS   sit.*ngal*
      'The man is sitting with [his] wife.'
  c. gini   buyal   bama:l   dumba:dingal   bunya-nda (Instrumental)
        penis.ABS   strong.ABS   person.ERG swive.*di.ngal*   woman-DAT
      'The man will swive (copulate with) the woman with [his] strong (i.e., erect)
        penis.'

Although Dixon (1977:313) states that the '[v]erbal suffix *-nga-l* can be attached to verbs of any semantic type,' there does seem to be a semantic basis for the causative/applicative split with such a form. Indeed, Austin's (1997) survey of Yidiny and other Australian languages indicates that verbs that form causatives center around inactive intransitives such as FALL, STAND, and SPLIT/SEPARATE, whereas those that form applicatives include such typical active intransitives as RUN, LAUGH, PLAY, and TALK/SPEAK (see below).

Similar causative/applicative syncretism is seen among Amerindian languages and elsewhere. As reported by Ichihashi-Nakayama (1996), the Hualapai verbal suffix *-wo* and its phonological variants derive both causative and benefactive forms, exemplified below:

(37) a. nya-ch   wàmiye:-yu
        I-SUBJ   I.be.mad-AUX
        'I am mad.'
    b. bos   nya   nyi-háda-ch   wà-nyi-miye:-wo-k-wi
        cat   I   REL-pet-SUBJ (be.mad)-3/1-be/mad-APPL-3-AUX
        'My cat makes me mad.'
(38) a. nya-ch   he'   yo:v-wi-ny
        I-SUBJ   dress   1/3.make-AUX-PAST
        'I made a dress.'
    b. nya-ch   he'   nyi-yo:v-ò-wi-ny
        I-SUBJ   dress   1/2-make-APPL-AUX-PAST
        'I made you a dress.'

Ichihashi-Nakayama (1996:232), on the basis of the following lists of predicates, identifies the agentivity vs. state/emotion distinction as the source of the causative/benefactive split:

(39) Verb roots yielding causative meaning Verb roots yielding benefactive meaning
      wamiya: 'be mad'   *swa:d*   'sing'
      wayala:y   'be angry'   *dadaha:d*   'work'
      diye: 'be mean'   *yo:v*   'make'
      wasavla:y   'be mean'   *gwa:m*   'drive'
      mi: 'cry'   *gaga:v*   'buy'
                                        dathgwi:l   'wash'
                                        gana:v   'tell'

A similar situation is observed in Malay transitivization involving the suffix *-kan* which

produces (among others) benefactive and causative forms.

(40) Malay (Yap 1996:5)

    a. Dia   beli kereta baru.
       3SG   buy   car   new
       'He/she bought a new car.'

    b. Dia   beli-kan   saya   kereta baru.
       3SG   buy-APPL   1SG   car   new
       'He bought me a new car.'

(41) Malay (Yap 1996:4)

    a. Bilek itu   besar.
       room   the   large
       'The room is large.'

    b. Dia   besar-kan   bilek itu.
       3SG   large-CAUS   room   the
       'He/she enlarged the room.'

Adding the *-kan* suffix to agentive verbs generally does not yield causatives in Malay, where the normal way of causativizing active predicates is by syntactic means involving the verb *buat* 'make/do' or *bagi* 'give' as below;

(42) Malay (Foong Ha Yap, p.c.)

    a. Aku   buat   budak (i)tu lari dua batu.
       1st:SG   make/do child   the   run   two mile
       'I made the child run two miles.'

    b. Aku   bagi budak (i)tu lari dua   batu.
       1st:SG   give   child   the   run   two   mile
       'I had/let the child run two miles.'

Thus we recognize a strong tendency among these languages to avoid the morphological causativization of active verbs, and to assign an applicative function to the causative morphemes found with active verbs. The causative/applicative split is rather curious when the relevant constructions are viewed from a simple valency-changing perspective. With respect to causatives, Dixon (2000:30) tells us that he 'prefer[s] a different characterization [from semantic ones like the one proposed here involving event structure]—a causative construction involves the specification of an additional argument, a causer, on to a basic clause.' True, both causativization and applicativization increase verbal valance. Yet these two operations have diametrically opposed syntactic consequences. In the words of Dixon (2000:31): 'causative adds a new A [subject] argument…and

applicative adds a new O [object] argument.'

Understanding the unity behind these disparate valency-increasing processes requires a semantically based understanding of causative constructions. We suggest that the applicative meanings of comitative, instrumental, and benefactive forms be connected to sociative causatives. As is clear from the earlier discussion on Marathi and Japanese causatives, sociative causatives involve the causer's active participation in the execution of the caused event—in many cases even to the extent of the causer's performing an act identical to that of the caused event. Leading someone by walking with him hand in hand is a typical situation conveyed by the Marathi sociative causative *caal-aw-Ne* 'to make someone walk'. The Japanese form *asoba-seru* 'to make someone play' can express a situation where the causer is playing with the causee, as in the case of a mother and a child. It is easy to derive a comitative reading from these. The comitative meanings of 'I walk with him' and 'I play with her' are derivable from 'I make him walk by walking with him' and 'I make her play by playing with her,' as the former are entailments of the latter. Notice that in some languages the causative of WALK and GO may have the meaning of 'to lead' as in the Svan form *katzelalne* walk.CAUS.AOR (Sumbatova 1993:259) and the Dogon form *go-nd-* go.out-CAUS 'lead out' (Plungian 1993:392).

We assume that the instrumental reading arose from a similar entailment relationship between a causative expression and an instrumental applicative meaning. If someone causes a knife to cut the meat, he/she is in effect cutting the meat with a knife, because a knife cannot cut meat independently from the causer agent who actually uses it.

Benefactive reading can also be derived from the sociative causative. Besides the independent connection between a benefactive verb and a causative construction (as in the case of the *de-Ne* 'give' permissive causative in Marathi and elsewhere), sociative causatives such as *caal-aw-Ne* 'to make walk' and *mut-aw-N*e 'to make someone urinate' can be construed with an 'assistive' meaning; 'I walk with someone (e.g., a small child) by holding his hand so that he will be able to walk', or 'I helped the child to urinate by holding him or pulling his pants down'. Indeed, in some languages causative forms do have an assistive reading; cf. Svan forms *x-alaš-nun-e* '[s/he] causes [someone] to saw'; *xakwter-nun-e* '[s/he] helps [someone] to steal' (Kulikov 1993:133).

Our account above is corroborated by Austin's (1997) study of causative/applicative syncretism in Australian languages. The verbs likely to undergo applicative derivation center on those expressing the meanings of GO, RETURN, RUN, PLAY, SIT, STAND, and LIE. These are activities most susceptive to either joint-action or assistive causation. Also relevant to the present discussion is the fact that Cora has developed from the *–te* causative suffix a comitative applicative function only in deictic movement verbs such as RUN AWAY and ARRIVE (see Vázquez Soto, to appear).

More difficult to explain are the verbs LAUGH and CRY, whose causative forms often appear to have the effect of adding a new object nominal, the resulting constructions with

meanings such as 'laugh at someone' and 'cry over something'. It seems that what we have here is some kind of realignment of the causer and the causee vis-à-vis grammatical relations. That is, the straightforward causative expression of the type 'he causes me to laugh' and 'it made me cry', where the causer nominal is understood to be non-agentive, has undergone the realignment, yielding the expression type 'I laugh at him' and 'I cried over it'. Notice that the latter are entailments of the former.

Ichihashi-Nakayama (1996) accounts for the causative/benefactive split in terms of the availability of role slots. When the affecting participant (agentive) slot is open (as in the case of inactive verb roots), a causative form results, and when the affecting participant slot is occupied (as in the case of active verb roots), a newly introduced argument must occupy the affected participant slot, yielding a benefactive reading. This analysis, although plausible for the Hualapai verbal suffix –*wo* and similar cases, leaves much unaccounted for. The crux of the problem is, why does the Hualapai –*wo* suffix fail to host two agents, when Quechua -*ci* and Japanese -*sase*, for example, permit two agents and express indirect causation? Causative morphemes differ in the ways they accommodate two agents. On the one hand, there are causative suffixes such as Japanese -*sase*, which typically express indirect causation involving two agents. Quechua -*ci*, which expresses both direct and indirect causation, and the Marathi –*aw* suffix also convey sociative causation with two co-participating agents. These have not developed an applicative function associated with the causative suffix. On the other hand, there are such restricted affixes as the Hualapai –*wo* and the Malay -*kan*, which, accommodating only a single agent, uniquely express direct causation, and have developed an applicative function for a situation involving two agents. Yet there are others in which both two-agent causative and applicative readings are sanctioned, as in Bella Coola and Kinyarwanda[8];

(43) Bella Coola (Saunders & Davis 1982, slightly regularized)
    a. tx-is   ?aleks   ti-qlsx^w-tx (Transitive)
      cut-he/it   Alex   -rope-
   'Alex cut the rope/Alex is cutting the rope.'
    b. tx-a-Ø   ?aleks   x̲-ti-qls^w-tx (Intransitivized via Antipassive)
      cut-INTR-he Alex   PREP...-rope-
    'Alex is cutting a rope.'
    c. tx-a-tus   ?aleks   mat   x̲-ti-qls^w-tx
      cut-INTR-he/him Alex   Matt   PREP...-rope-
    (i) 'Alex cut the rope for Matt.'
    (ii) 'Alex made/let Matt cut the rope.'
(44) Kinyarwanda (Kimenyi 1988)
    a. Umugóre a-ra-andik-iish-a   íbarúwa íkarámu.
      woman   she-PRES-write-INSTR-ASP letter   pen

'The woman is writing a letter with a pen.'
  b. Umwáalímu a-ra-som-<u>eesh</u>-a   abányéeshuúri   ibitabo.
      teacher   he-PRES-read-CAUS-ASP students   books
  'The teacher is making the students read books.'

What is needed in explaining these situations is a dynamic model that can represent different degrees of lexicalization. Our account involves placing these different causative affixes at different points along a directness dimension of the causative semantics. Those affixes toward the indirect end accommodate two agents, whereas those toward the direct end reflect the pressure of lexicalization and accommodate only a single agent, thus requiring a reassignment of the causee agent. Our account places Hualapai -*wo* and Malay -*kan* toward the left side of the semantic space in Table 4, where the causative constructions express direct causation involving an agentive causer and a patientive causee. That is, these suffixes, having undergone high degree of lexicalization, cannot host two agents, as pure lexical causatives normally cannot; hence the causative meaning is associated only with the forms deriving from inactive intransitive verbs. Bella Coola causative inflection and Kinyarwanda -*IIsh* suffix, on the other hand, have not undergone lexicalization to as high a degree as the Hualapai and the Malay case, allowing ambiguous expressions ranging over the causative and the applicative meaning.

Our point is that (a) the causative/applicative syncretism is seen when there is a sociative reading associated with the causative constriction, and (b) the split occurs at an advanced stage of grammaticalization/lexicalization. An event segment involving a single agent appears to be a unit a verb lexicalizes. Complex forms turning into unitary lexical units, i.e., undergoing lexicalization, conform to this requirement.

The account above showing that the causative/applicative split results from the pressure of lexicalization, finds some support in languages where the causative/applicative syncretism is observed only in expressions more advanced in lexicalization. For example, Stefanowitsch, to appear, reports that the non-productive transitivizing suffix –*ba* in Akawaio is observed in certain sociative verbs such as *binimba* 'to walk someone, to walk with someone, to carry some one' that are related to intransitive verbs, e.g., *bininö*.

Matses, as described by Fleck, to appear, also has lexically restricted causative suffix –*ua*, which yields causatives when attached to inactive verbal roots (e.g., *uënës* 'die': *uënësua* 'kill'; *noad* 'float': *noadua* 'make float'). When this suffix occurs with active verb roots, it has the applicative function (e.g., *nua* 'lie': *nuaua* 'lie to or about someone'; *shubi* 'cry': *shubiua* 'cry for someone'). On the other hand, the productive Matses causative suffix –*me* has not fully developed the applicative function.

According to Martin (2000), Creek (Muskogean family; southeastern United States) has two causative suffixes –*ic* and –*ipeyc*. Martin considers the former causative forms, though common in the language, to be 'almost certainly learned rather than created spontaneously'

(394). For this reason Martin does not isolate the –*ic* suffix by a hyphen in his examples, as opposed to the longer –*ipeyc*, which he clearly segmentizes as an indication of its productivity. Our discussion above suggests that the lexicalized forms are associated with direct causative situations and the productive forms with indirect causation; and this correlation is correct, according to Martin. Martin also notes sporadic association of the lexicalized –*ic* form and the applicative function of adding an object.

In a similar vein, the more grammaticalized causative preverbs in Sikuani have applicative functions, but the less grammaticalized suffixal causative form has not developed the applicative use (see Queixalós, to appear).

Finally, in Yukaghir, the first causative suffix -*š* (which derives typical direct causatives) allows a 'comitative-causative' meaning, whereas the second, longer causative form -*š-cil'ê* (which derives indirect causatives) has a pure causative meaning; *ewrê-* 'to go, to walk' > *ewrê-š-* 'to lead, to carry' > *ewrê-š-cil'ê-* 'to cause somebody to go' (Maslova 1993:273)[9].

7. SUMMARY AND CONCLUSION

In this paper we argued for a semantically oriented approach to causative constructions. In the first place, a more rigorous definition of the popular terms such as 'direct' and 'indirect' causation must be proposed. We have refined the definitions using event structure, which explicates the different relationships that the causer and the causee participant may hold with respect to the caused event. In the case of direct causation, the causer's action carries over to the caused event, whereas in indirect causation the caused event enjoys an autonomous status free of the causer's intervention. The difference between the two is reflected in the differences of the spatio-temporal profiles associated with the causing and the caused event.

We have shown that an important intermediate category of causation bridges the direct and the indirect situation in such a way as to turn the entire directness dimension of the causative semantics into a continuum. The reality and the importance of the intermediate, sociative causatives are seen in their connection to the applicative function that causative formatives are associated with in a fair number of languages.

Finally, the form-function correlation is shown in a semantic map, which plots out the semantic domains that different causative formatives cover. The semantic map also reflects the pattern of grammaticalization/lexicalization. It has been shown that the notion of productivity is more significant in the form-function correlation than the formal characteristics of causative constructions, though the two are correlated to a great extent because grammaticalization affects them[10].

Our paper has attempted to demonstrate the importance of taking semantics as a starting point for description and analysis. Superficial formal differences are indicative of historical

developments, but they tend to depend on the overall morphological typology of a language in question, for productive processes may be realized either as periphrastic constructions or morphological operations depending on whether the language is strongly isolating or agglutinative.

NOTES

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1. Masica (1976:54ff) follows the practice of Leningrad typologist A.A. Xolodovich (1969), defining 'distant' and 'contactive' causation and summarizing the distinction as follows: 'In [contactive causation] the agent does something to the object, bringing about its new condition by direct contact; in [distant causation] he makes use of an intermediary agent and serves only as the "instigator" of the act.' As shown below, this reference to 'intermediary agent' has caused some confusion in subsequent works.

Nedjalkov and Silnitsky (1973:10-11), which is a revised version of Nedjalkov and Sil'nickij (1969) included in the collection edited by Xolodovich, offer a more careful characterization of 'distant' and 'contact' causation, which is consonant with our definition of 'direct' and 'indirect' causation, as follows:

> In the case of distant causation there is a mediated relation between the causing subject and the caused state in which a greater or lesser independence of the caused subject is actualized in its initiation (or failure to make an initiation) of the states s_j. This mediation often appears in an actualization of a certain time interval between the causing (s_i) and caused (s_j) states. Permissive causation is according to this definition always distant. The subject of the caused state (r_j) in the case of factitive [i.e., non-permissive] distant causation is usually animate: *ja prikazal emy ijti* (I ordered him to leave).
>
> The characteristics mentioned above are absent in the case of contact causation. Factitive contact causation can have either an animate (a) or an inanimate (b) r_j: (a) *ja ispugal ego* 'I frightened him', (b) *ja otkryl dver'* 'I opened the door.'
>
> Contact causation tends to be found more often than distant causation.

Saksena (1982) proposes to decompose the notion of contact into two semantic components; whether or not the causer is personally involved in the verb activity, [±involved]; whether the causee is affected or not, [±affected causee]. Saksena tells us that '[f]or causative contact to be initiated, the causer must be personally involved in the verbal activity'. (824). This kind of characterization remains vague until the notion of personal involvement is rigorously defined.

Dixon (2000:67) identifies directness of causation as one of the relevant semantic parameters. Under the heading of 'Directness. Whether the causer acts **directly** or **indirectly**,' he tells us, in reference to the works on Hindi by Y. Kachru and A. Saksena, that the two relevant suffixes in this language 'differ in terms of directness—suffix –*a* indicates that the causer acts **directly** and –*va* that they [sic] act **indirectly**' (bold face original). What does it mean for the causer to act directly or indirectly? By making reference to Hindi, Dixon (p.67, p.70) seems to imply that acting indirectly means involving an intermediary agent. This is consistent with some Hindi grammarians' practice, where the contrast is drawn on the basis of examples like 'I taught Ram' (with the direct -*aa* form) vs. 'I had the teacher make Ram study' (with the indirect –*vaa* form) (see Saksena 1982). In the latter 'the teacher' is an intermediary agent. In reference to Telugu, however, he seems to mean a situation not necessarily involving an intermediary agent of the above sense, for he describes an event of a nurse's telling a child to walk as a case of indirect causation (p.68). Although the issue rests on the definition of an intermediary agent, for which no rigorous definition has been offered by Masica (1976) or Dixon (2000), Dixon's description has managed to cause some confusion in his fellow contributor to the volume in which his paper appears. Rice (2000) has apparently taken the presence of an intermediary as a defining feature of indirect causation and has decided to characterize expressions such as 'he makes him swim' and 'she let him wear a hat' in Athapaskan languages as expressing direct causation (p. 213) (see Section 5).

2. Note that in many languages, including Japanese, indirect causation involving a patientive causee is not expressible—see (1c). Those languages that have recruited verbs of communication such as SAY/TELL and SHOUT/CALL for indirect causative constructions are expected to impose this restriction, at least in the early phase of grammaticalization of these verbs.

3. Contrastive length in vowels is indicated by doubling the symbol. Consonants in upper case are retroflex.

4. Note that analytic causatives may express sociative situations. The point, however, is that they also express indirect causative situations, unlike –*aw* sociative forms. In other words, analytic causatives express a wider range of causative meaning and thus show a partial functional overlap with other types that express more limited ranges of meaning.

5. Incidentally, the German *lassen* causative is also sensitive to the active/inactive contrast in the base verb; it yields only a permissive *let*-causative reading when inactive intransitives are involved; *Man liess den Swimmer ertrinken* 'They let the swimmer drown /*They made the swimmer drown.' (Akio Ogawa, p.c.)

6. Notice that the forms more advanced in semantic bleaching show a closer connection to the main verb in the active voice; cf. *I made/had him leave* vs. *I forced/persuaded him to leave.*

7. Rice identifies these causatives as direct causatives. See footnote 1.

8. Some languages show a causative/applicative overlap in some verbs—e.g., Yidiny *bila-* 'go in': *bila-nga* 'go in with/put in'—while the split is observed elsewhere (Dixon 2000).

9. In this section we have assumed that the applicative use develops from causatives. It is equally plausible that causatives develop from applicatives via overlapping semantics discussed in the text. Payne, to appear, shows that the development in Asheninka is: causative < applicative. Valenzuela, to appear, points out the possibility of interpreting an associative applicative expression in Shipibo-Konibo as a sociative causative. Also Zavala, to appear, notes that the Olutec applicative prefixes give rise to a causative sense (e.g., 'We are going to take a walk with the grandfather' > 'We are going to take the grandfather for a walk,' 'That woman is dancing for him' > 'He is making that woman dance'). In this connection, it is worth noting that a reciprocal morpheme is also a source for sociative, assistive, and comitative constructions. See Nedjalkov & Nedjalkov (forthcoming) on Yakut, Shkarban & Rachkov (forthcoming) on Tagalog, and other languages in Nedjalkov (forthcoming).

10. It is generally believed that grammaticalization has the effect of making the use of a particular lexical item more general and regular as it becomes a grammatical morpheme. What we have been discussing in the latter part of this paper is concerned with a final stage of grammaticalization, where a regular grammatical morpheme, together with a stem form, becomes lexicalized and shows morphological irregularity. In the evolution of a causative morpheme, there could be two stages where it is not quite productive. In the initial stage, where a verb such as 'tell/say' is recruited for a causative construction, it is likely to just to apply to a situation where the causee is a human agent. It may then generalize and expand its coverage to include inanimate causees. This is the most regular and productive stage. The morpheme in question then may begin lexicalization, whereby expressions involving inanimate causees become lexicalized in the sense that they are no longer related to non-causative forms by a regular morphological process.

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